



Guidelines For Estimating Swine Farrow-Wean to 5 kg Costs Based On 600 Sows, 13119 Pigs Sold

formation Update

Date: September, 2000

This publication is intended to provide a format and a set of guidelines for determining production costs for a swine farrow to 5kg enterprise. This operation is intended to represent the first stage of a three stage system. The costs are estimates of production costs and not figures obtained from an actual survey of the hog industry in Manitoba. Adjustments will be necessary when applying these figures to your own enterprise. The assumptions on which the costs are based are outlined in the supporting pages. These assumptions were arrived at using the breeding stock, management practices, and facilities seen in modern, well-managed swine operations of comparable size in Manitoba. Productivity and performance assumptions are based on information collected by department specialists, feed companies and other organizations. Adjustments will be necessary where individual herd productivity and performance levels differ from those listed.

Accurate, up-to-date, production and financial records are essential for the effective application of these guidelines to an individual operation. Without such information accurate cost of production projections cannot be determined.

Farrow-Wean to 5 kg Pig Cost of Production

The following farrow wean cost of production budget is based on the assumption that all feed is purchased.

The budget also includes a land investment cost based on the assumption that 160 acres would be required for this size of operation, with 140 acres being rented out.

If developing a cost of production budget to include home mixed rations the following items should be added to the budget:

- additional equipment costs associated with a mix mill;
- additional bins for different ingredients;
- additional labour for feed preparation.

The rations illustrated in this budget are examples only.

Individual farm conditions should be taken into account when formulating the diets.

Producers need to know what the intakes of their animals are.

Please consult with a nutritionist for diet formulation suggestions.

The Manitoba pork production industry profile is changing and this budget was specifically designed to address the need of producers who may want to analyze the cost of starting up or switching to a farrow wean 5 kg operation. Several companies are offering contracts with varying levels of guarantees. Producers need to accurately calculate their costs before they can properly make a decision.

600 Sow Farrow-Wean 5kg Cost of Production Summary 2000

Operating Costs	\$/Pig Sold	\$/Sow	Total Cost	Your Cost
1. Feed Costs:				
1.01 Sow Lactation Ration	2.94	64.30	38,570	
1.02 Sow Gestation Ration	6.69	146.31	87,766	
1.03 Boar Ration	0.42	9.19	5,510	
1.04 Creep Feed	1.13	24.71	14,824	
Total Feed Cost	\$11.18	\$244.51	\$146,670	
2. Other Operating Costs:				
2.01 Veterinary Medicine & Supplies:	1.33	29.09	17,448	
2.02 Maintenance & Repairs	0.34	7.44	4,460	
2.03 Hydro & Propane	1.79	39.08	23,440	
2.04 Insurance	0.61	13.24	7,945	
2.05 Manure Costs	0.93	20.29	12,171	
2.06 Office Supplies	0.13	2.84	1,705	
2.07 Marketing & Transport.	0.10	2.19	1,312	
2.08 Sow Replacement	3.15	68.89	41,325	
2.09 Boar Replacement	1.06	23.09	13,850	
2.10 Property Tax	0.50	11.00	6,600	
Subtotal Operating Costs	21.11	461.66	276,926	
2.11 Interest on Operating Costs	0.38	8.35	5,009	
Total Operating Costs	\$21.49	\$470.01	\$281,935	
Fixed Costs				
3. Depreciation:				
3.01 Buildings & Manure Storage	1.69	36.96	22,171	
3.02 Equipment	2.59	56.64	33,978	
Total Depreciation Cost	\$4.28	\$93.60	\$56,149	
4. Investment:				
4.01 Land Cost	0.29	6.38	3,826	
4.02 Buildings & Manure Storage	1.01	22.02	13,210	
4.03 Equipment	0.79	17.33	10,397	
4.04 Breeding Herd	0.75	16.50	9,900	
Total Investment Cost	\$2.85	\$62.23	\$37,333	
Total Fixed Costs	\$7.13	\$155.83	\$93,482	
5. Labour				
Wages, benefits and hired manager	8.80	192.46	115,447	
Total Cost of Production	\$37.42	\$818.30	\$490,864	

Farrow to 5 kg Pig Production Costs

1. This input table outlines the production assumptions used.
2. Buildings and equipment are valued at new cost.
3. Manure haulage is contracted out.
4. Gilts are purchased for herd replacement.

Indicators of Productivity

Sows	600
Boars	30
Litters/Sow/Year	2.35
Average Weaning Age (days)	20
Average Born Alive per Litter	10.90
Percent Pre-Weaning Mortality	12.0
Percent Post-Weaning Culls	3.0

Herd Profile	Total	/Sow	/Litter	%Mortality
Sows	600			
Boars	30			
Litters	1,410	2.35		
Pigs Born Alive	15,369	25.62	10.90	
Pigs Died, Pre-Weaning	1,844	3.07	1.31	12.0
Pigs Weaned	13,525	22.54	9.59	
Pigs Culled	406	0.68	0.29	3.0
Weaner Pigs Sold	13,119	21.87	9.30	

Feed Requirements and Costs

		Purchased	Home-Mixed
Dry Sow Ration	2.3 kg/day	\$200.00	\$0.00
Nursing Sow Ration	6.0 kg/day	\$228.00	\$0.00
Boar Ration	2.5 kg/day	\$200.00	\$0.00
Creep Feed	1.0 kg/pig	\$962.00	\$0.00

Labour

Total Hours per 7-day week	185.0	hours/week
Wage (includes benefits & hired manager)	\$12.00	/hour

Sow Barn Capital Investment

	Sq.Ft. ¹	\$/Sq.Ft.	Total	/Sow	Your Cost
Buildings					
Gestation	16,200	\$17.10	\$277,020	\$461.70	
Farrowing	6,200	\$19.45	120,594	\$200.99	
Office & Loading	200	\$25.00	5,000	\$8.33	
Standby Generator			25,000	\$41.67	
Feed Mill (building only)			0	\$0.00	
Total Building Cost			\$427,614	\$712.69	
Equipment ¹					
Gestation		\$15.25	\$247,050	\$411.75	
Farrowing		\$20.00	\$124,004	\$206.67	
Fire Alarm System			\$3,000	\$5.00	
Feed Bins (4 bins)			\$4,000	\$6.67	
Ingredient Bins			\$0	\$0.00	
Total Equipment Cost			\$378,054	\$630.09	
Total Buildings and Equipment Cost			\$805,668	\$1,342.78	
Breeding Stock					
Value of Replacement Sow	\$280	/sow	\$168,000	\$280.00	
Value of Replacement Boar	\$1,000	/boar	\$30,000	\$50.00	
Total Breeding Stock Cost			\$198,000	\$330.00	
Land Value					
Land Investment	160 acres @	\$500	\$80,000	\$133.33	
Less: Rental Income	140 acres @	\$25			
Other Costs					
Site Preparation			\$30,000	\$50.00	
Manure Storage			\$28,000	\$46.67	
Total Other Costs			\$58,000	\$96.67	
Total Capital Investment			\$1,141,668	\$1,902.78	

¹ FOOTNOTE: The number of square feet allocated for buildings and equipment are approximations.

Cost per sow for buildings and equipment will vary around the province.

FOOTNOTE: 1 sq.ft. = 0.0929 sq.m; 1 sq.m. = 10.764 sq.ft.; 1 ft. = 0.3048 m

Ration Ingredients & Costs

Ingredients	Price/tonne	Your Cost
Barley	\$108	_____
Corn	\$120	_____
Soybean Meal - 47 %	\$315	_____
Canola Meal - 37%	\$183	_____
Creep Premix	\$700	_____
Sow Micro Premix	\$2,550	_____
Canola Oil	\$920	_____
Whey Powder	\$720	_____
Herring Meal	\$1,400	_____
Limestone	\$65	_____
Phosphorous (16-21)	\$465	_____
Salt - 96%	\$120	_____
L-Lysine HCL	\$2,550	_____
Oats - Steam rolled	\$400	_____
Processing Cost		_____
(Hydro,repairs/maintenance & insurance)	\$3.25	_____
Percent Weight loss due to processing	1.25 %	_____
Labour Cost	\$4.00	_____

Ration Formulas	Dry Sow (kg)	Nursing Sow (kg)	Boar Ration (kg)	Creep Ration (kg)
Barley	810.20	530.70	810.20	0.00
Corn	0.00	199.00	0.00	133.85
Field Peas	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	117.00	0.00	129.31
Canola Meal - 37%	138.00	80.00	138.00	0.00
Creep Premix	0.00	0.00	0.00	34.03
Sow Micro Premix	5.00	5.00	5.00	0.00
Canola Oil	10.00	30.00	10.00	18.15
Whey Powder	0.00	0.00	0.00	124.77
Herring Meal	0.00	0.00	0.00	74.86
Limestone	16.50	15.00	16.50	0.00
Phosphorous (16-21)	14.90	16.50	14.90	0.00
Salt - 96%	3.50	4.90	3.50	0.00
L-Lysine HCL	1.90	1.90	1.90	0.50
Oats - Steam rolled	0.00	0.00	0.00	484.53
TOTAL (kg)	1,000.00	1,000.00	1,000.00	1,000.00

Feed Requirement and Cost Summary

	Amount	Ingredient Price	Ration Cost	Your Cost
	(kg)	(\$ /tonne)	(\$ /tonne)	
Dry Sow & Boar:				
Barley	810.2	\$108.00	\$87.50	
Canola Meal - 34%	138.0	\$183.00	\$25.25	
Sow Micro Premix	5.0	\$2,550.00	\$12.75	
Canola Oil	10.0	\$920.00	\$9.20	
Limestone	16.5	\$65.00	\$1.07	
Phosphorous (16-21)	14.9	\$465.00	\$6.93	
Salt - 96%	3.5	\$120.00	\$0.42	
L-Lysine HCL	1.9	\$2,550.00	\$4.85	
Total Dry Sow	1,000.0 kg		\$147.97	
Adjusted For Weight Loss		1.25 %	\$149.82	
Plus Processing Cost		\$3.25	\$153.07	
Plus Labour Cost		\$4.00	\$157.07	
Nursing Sow:				
Barley	530.7	\$108.00	\$57.32	
Corn	199.0	\$120.00	\$23.88	
Soybean Meal - 47 %	117.0	\$315.00	\$36.86	
Canola Meal - 34%	80.0	\$183.00	\$14.64	
Sow Micro Premix	5.0	\$2,550.00	\$12.75	
Canola Oil	30.0	\$920.00	\$27.60	
Limestone	15.0	\$65.00	\$0.98	
Phosphorous (16-21)	16.5	\$465.00	\$7.67	
Salt - 96%	4.9	\$120.00	\$0.59	
L-Lysine HCL	1.9	\$2,550.00	\$4.85	
Total Nursing Sow	1,000.0 kg		\$187.14	
Adjusted For Weight Loss		1.25 %	\$189.48	
Plus Processing Cost		\$3.25	\$192.73	
Plus Labour Cost		\$4.00	\$196.73	
Creep Ration:				
Corn	133.9	\$120.00	\$16.06	
Soybean Meal - 47 %	129.3	\$315.00	\$40.73	
Creep/Starter Premix	34.0	\$700.00	\$23.82	
Canola Oil	18.2	\$920.00	\$16.70	
Whey Powder	124.8	\$720.00	\$89.83	
Herring Meal	74.9	\$1,400.00	\$104.80	
L-Lysine HCL	0.5	\$2,550.00	\$1.28	
Oats - Steam rolled	484.5	\$400.00	\$193.81	
Total Creep	1,000.0 kg		\$487.03	
Adjusted For Weight Loss		1.25 %	\$493.12	
Plus Processing Cost		\$3.25	\$496.37	
Plus Labour Cost		\$4.00	\$500.37	

Production Cost Worksheet

A. Operating Costs

Your Cost

1. Feed Requirements and Costs

1.01 Sow Lactation Ration

	20	days average weaning age	
x	2.35	litters/sow/year	
=	47.0	days lactation	
x	6.0	kg ration/day	
x	\$228.00	/tonne ration	
+	1,000	kg/tonne	
+	21.87	pigs/sow	
=	\$2.94	/pig sold	

1.02 Sow Gestation Ration

	365	days/year	
-	47.0	days lactation	
=	318.0	days gestation	
x	2.3	kg ration/day	
x	\$200.00	/tonne ration	
+	1,000	kg/tonne	
+	21.87	pigs/sow	
=	\$6.69	/pig sold	

1.03 Boar Ration

	365	days	
x	2.5	kg ration/day	
x	\$200.00	/tonne ration	
+	1,000	kg/tonne	
x	30	boars	
+	600	sows	
+	21.87	pigs/sow	
=	\$0.42	/pig sold	

1.04 Creep Feed

	1.0	kg ration/pig	
x	\$962.00	/tonne of creep feed	
+	1,000	kg/tonne	
x	25.62	pigs born alive/sow/year	
+	21.87	pigs/sow	
=	\$1.13	/pig sold	

2. Other Operating Costs**2.01 Veterinary Medicine & Supplies**

	\$7.29	/sow professional services	_____
+	\$21.83	/sow medication	_____
+	<u>21.87</u>	<u>pigs/sow</u>	_____
=	\$1.33	/pig sold	_____

2.02 Maintenance & Repairs

	\$1,342.78	/sow building & equipment cost	_____
x	0.55	% repair & maintenance	_____
+	<u>21.87</u>	<u>pigs/sow</u>	_____
=	\$0.34	/pig sold	_____

2.03 Hydro & Propane

	\$15,000	hydro	_____
+	\$8,440	propane	_____
+	<u>13,119</u>	<u>pigs marketed</u>	_____
=	\$1.79	/pig sold	_____

2.04 Insurance

	\$805,668	buildings & equipment	_____
x	\$0.46	/\$100 capital	_____
+	100		_____
+	<u>13,119</u>	<u>pigs marketed</u>	_____
=	\$0.28	/pig sold	_____
	\$198,000	breeding stock	
+	\$459,165	weaners	
x	\$0.65	/\$100 capital	
+	<u>13,119</u>	<u>pigs marketed</u>	
=	\$0.33	/pig sold	
=	\$0.61	/pig sold	

2.05 Manure Costs

Haulage	18.0	litres/sow/day	_____
x	\$0.002	/litre	_____
x	365	days	_____
+	<u>21.87</u>	<u>pigs/sow</u>	_____
=	\$0.60	/pig sold	_____

Odour control	\$4,300.00	total costs	_____
+	<u>13,119</u>	<u>pigs marketed</u>	_____
=	\$0.33	/pig sold	_____

Total	=	\$0.93	/pig sold	_____
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2.06 Office Supplies

	600	number of sows
x	\$2.00	fixed rate/sow
+	\$500.00	minimum cost
=	\$1,700.00	total
+	600	sows
+	<u>21.87</u>	<u>pigs/sow</u>
=	\$0.13	/pig sold

2.07 Marketing & Transportation

\$0.10 /pig sold

2.08 Sow Replacement

	180.0	kg/sow (cull weight)
x	\$60.00	/100 kg live
=	\$108.00	/sow value of cull
	\$280.00	/sow value of replacement
-	\$108.00	/sow value of cull
=	\$172.00	net replacement cost
x	40.00	% sow culling rate
+	<u>21.87</u>	<u>pigs/sow</u>
=	\$3.15	/pig sold

2.09 Boar Replacement

	225.0	kg/boar (cull weight)
x	\$34.00	/100 kg live
=	\$76.50	/boar value of cull
	\$1,000.00	/boar value of replacement
-	\$76.50	/boar value of cull
=	\$923.50	net replacement cost
x	50.00	% boar culling rate
x	30	number of boars
+	600	number of sows
+	<u>21.87</u>	<u>pigs/sow</u>
=	\$1.06	/pig sold

2.10 Property Taxes:

	\$6,600.00	total taxes
+	<u>13,119</u>	<u>pigs marketed</u>
=	\$0.50	/pig sold

<u>Subtotal Operating Cost x Farrow-to-Farrow Period</u>	<u>x</u>	<u>% Interest</u>
365		2

	365	days per year	
+	2.35	litters/sow	
=	155	days farrow-to-farrow	
	\$21.11	subtotal operating	
x	155	days farrow to farrow	
+	365	days per year	
x	8.50	% operating interest rate	
+	2	average	
=	<u>\$0.38</u>	/pig sold	

B. Fixed Costs**3. Depreciation:** Original Cost - Salvage Value
Useful Life**3.01 Buildings**

	\$485,614	building cost (including earthen manure storage)	_____
-	\$42,761	salvage value (building only)	_____
+	20	years useful life	_____
+	<u>13,119</u>	pigs marketed	_____
=	\$1.69	/pig sold	_____

3.02 Equipment

	\$378,054	equipment cost	_____
-	\$37,805	salvage value	_____
+	10	years useful life	_____
+	<u>13,119</u>	pigs marketed	_____
=	\$2.59	/pig sold	_____

4. Investment:

$$\frac{(\text{Original Cost} + \text{Salvage Value})}{2} \times \text{Investment Rate}$$

5.00 % investment rate

4.01 Land Cost

	\$80,000	land investment	_____
-	\$3,500	rental income	_____
=	\$76,500	net cost	_____
x	5.00	% investment rate	_____
+	<u>13,119</u>	pigs marketed	_____
=	\$0.29	/pig sold	_____

4.02 Buildings

	\$485,614	building cost (including earthen manure storage)	_____
+	\$42,761	salvage value (building only)	_____
+	2	average	_____
x	5.00	% investment rate	_____
+	<u>13,119</u>	pigs marketed	_____
=	\$1.01	/pig sold	_____

4.03 Equipment

	\$378,054	equipment cost	_____
+	\$37,805	salvage value	_____
+	2	average	_____
x	5.00	% investment rate	_____
+	<u>13,119</u>	<u>pigs marketed</u>	_____
=	\$0.79	/pig sold	_____

4.04 Breeding Stock

	\$198,000	value of breeding stock	_____
x	5.00	% investment rate	_____
+	<u>13,119</u>	<u>pigs marketed</u>	_____
=	\$0.75	/pig sold	_____

5. Labour

	185.0	hours/week	_____
x	52	weeks/year	_____
x	\$12.00	/hour	_____
+	600	sows	_____
+	<u>21.87</u>	<u>pigs/sow</u>	_____
=	\$8.80	/pig sold	_____

Summary of Purchased Feeds Used

Number of Sows 600
Total Pigs Sold 13,119

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Dry Sow	438.84	36.57	33.45	73.75
Lactating Sow	169.20	14.10	12.90	28.43
Boar	27.38	2.28	2.09	4.60
Creep	13.53	1.13	1.03	2.27
Total	648.94	17.51	49.47	109.05

Summary of Home Feed Ingredients Used

	Total per Year (tonnes)	Total per Month (tonnes)	Total per Pig (kgs)	Total per Pig (lbs)
Barley	0.00	0.00	0.00	0.00
Corn	0.00	0.00	0.00	0.00
Field Peas	0.00	0.00	0.00	0.00
Soybean Meal - 47 %	0.00	0.00	0.00	0.00
Canola Meal - 37%	0.00	0.00	0.00	0.00
Creep Premix	0.00	0.00	0.00	0.00
Sow Micro Premix	0.00	0.00	0.00	0.00
Canola Oil	0.00	0.00	0.00	0.00
Whey Powder	0.00	0.00	0.00	0.00
Herring Meal	0.00	0.00	0.00	0.00
Limestone	0.00	0.00	0.00	0.00
Phosphorous (16-21)	0.00	0.00	0.00	0.00
Salt - 96%	0.00	0.00	0.00	0.00
L-Lysine HCL	0.00	0.00	0.00	0.00
Oats - Steam rolled	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
Total	0.00	0.00	0.00	0.00

For further information contact your local Manitoba Agriculture and Food office.

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